

Work Order ID 154910

Tuesday, January 03, 2017 3:25:52 PM

154910

Page 1

Item ID: 647.4110

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Doubler

Start Date: 1/6/2017 Start Qty: 5.00

5

Cust Item ID:

Required Date: 1/13/2017 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals:

Process Plan:

DAS
21
9-89

Date: JAN 04 2017

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

647.4100

n/c

110

0.02

110

Waterjet

FLOW CNC Waterjet

Memo

1-Cut as per Dwg

Dwg Rev: N/CProg Rev: N/C

2-Deburr if necessary

0.05

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Quality Control

Memo

0.01

(5)

12/17/2020

(5)

12/17/2020

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					

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Page 2

N900040100

Setup Start *NS1*

Stop *NS2*

5

Cust Item ID:

Start Date: 1/6/2017 **Start Qty:** 5.00

Required Date: 1/13/2017 **Req'd Qty:** 5.00

5

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

**Insp.
Stamp**

0.00

130

OC

Memo

0.02

Quality Control

140

0.00

140

Small Fab

Memo

0.01

Small Fab

FORM AS PER DWG

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.02

Quality Control

AN 20 2017

DAS
30
9-89

FEB 01 2017

DAE
38
9-89

FEB 01 1977

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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154910

Page 3

Item ID: 647.4110 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Doubler
Start Date: 1/6/2017 Start Qty: 5.00 ***5*** Cust Item ID:
Required Date: 1/13/2017 Req'd Qty: 5.00 ***5*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Outsource process-Anodize per QSI017 4.1.10.1	0.00							
160									
Outsource4	Memo	149.99				5			DAS 13 002
Outsource process - Anodize	Issue P/O to ATG : <u>35239</u>								
	1- Black Anodize as per Dwg 647.4100								
	2- PRIME AS PER DWG, SEE NOTE #2								
	Certification of Comformity is required								
170	Receive & Inspect for Damage & Mat'l Certs	0.00							
170									
Packaging	Memo	0.02							
Packaging									5x Sp/70221
180	QC5- Inspect part completeness to step on W/O	0.00							
180									
QC	Memo	0.02				5			68-6 83 DAS
Quality Control									

FEB 22 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Identify as per dwg & Stock Location: <u>24080</u>	0.00							
210									
Packaging	Memo	0.01							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.08							
Quality Control									

6
FEB 23 2017
DAS 21 9-89
FEB 23 2017
MF
17-2-23

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Root Cause		FAULT CATEGORY			
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Picklist Print

Tuesday, January 03, 2017 3:25:52 PM

Page 1

Work Order ID: 154910

154910

Parent Item: 647.4110

647 4110

Parent Item Name: Doubler

Start Date: 1/6/2017

Required Date: 1/13/2017

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A 12.10.26 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.063		Purchased	No			110	sf	138.0500	1.227	6.457895			

M2024T3S 063

2024-T3 .063 sheet

1/17/20

Location

Loc Qty

Loc Code

MAT

11.3

m135512

11.3

MAT009

126.75

m134640

51

m135612

27.75

n136492

48

7

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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OTHER : _____																																																															

APICAL

INDUSTRIES, INC.

TRANSACTION CODES (TC):
A-ADD
C-CREATE
R-REVISE
D-DELETE

ENGINEERING CHANGE NOTICE NO. 04510

SHEET 1 OF 1

DWG NO. 647.4100

PREPARED BY J. BECKER

DATE: 04/24/14

DWG TITLE: SHEETMETAL

APPROVED BY: ENGR

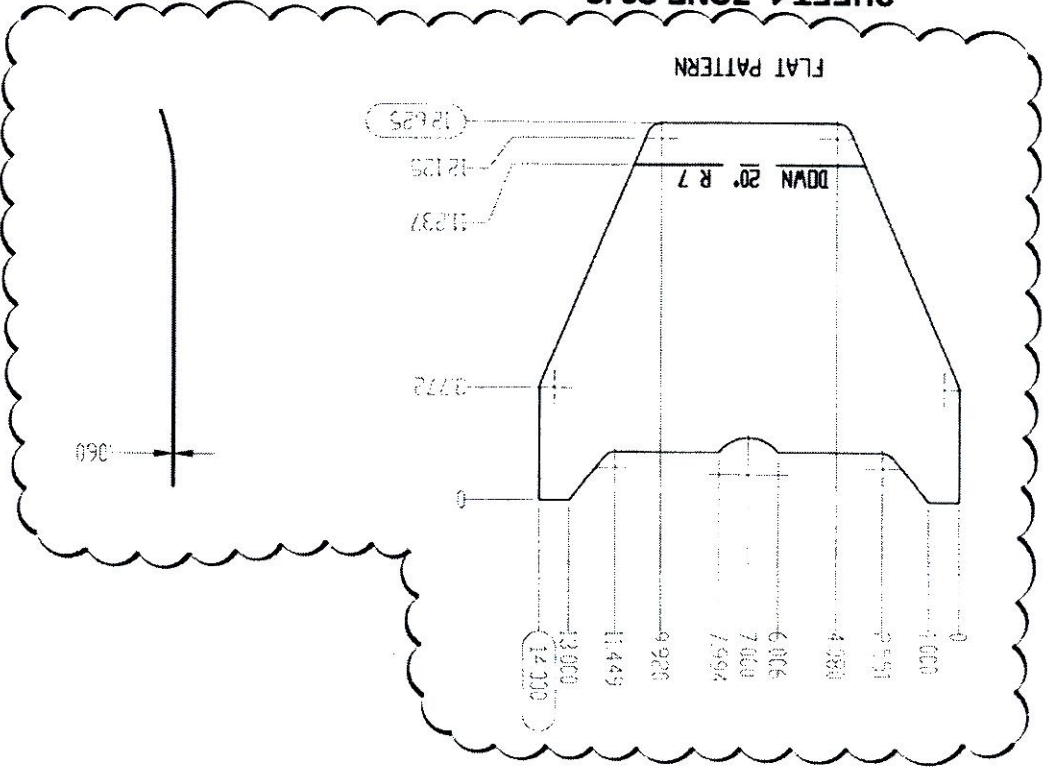
MFG

QC

EFFECT NEXT ORDER

REASON: MODIFIED DOUBLER.

SHEET 1, ZONE C2 IS:



DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM ☐ CHANGE CATEGORY ☐ MAJOR ☒ MINOR ☐ DER REVIEW REQUIRED ☐ YES ☒ NO

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 154910 M/S
1701-04

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 02866				SHEET 1 OF 1	
	DWG NO. 647.4100	REV: N/C	PREPARED BY R. ROSANO	DATE: 05/05/10	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: SHEET METAL					
	APPROVED BY:	ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	OC <i>[Signature]</i>	EFF: CURRENT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: CHANGED PRETREATMENT CALLOUT					

SHEET 1, ZONE A1 IS:

NOTES UNLESS OTHERWISE SPECIFIED

1 MATERIAL ALUMINUM 6024-T3 PER APL-CD-A 250-4

2 FINISH: HARD ANODIZE 1AW MIL A-8025 TYPE II

3 SURFACE PRETREATMENT: ALUMINUM ADHESION PROMOTER
 4 1AW MIL A-8025 TYPE II

IS

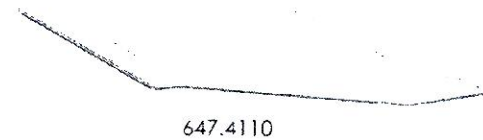
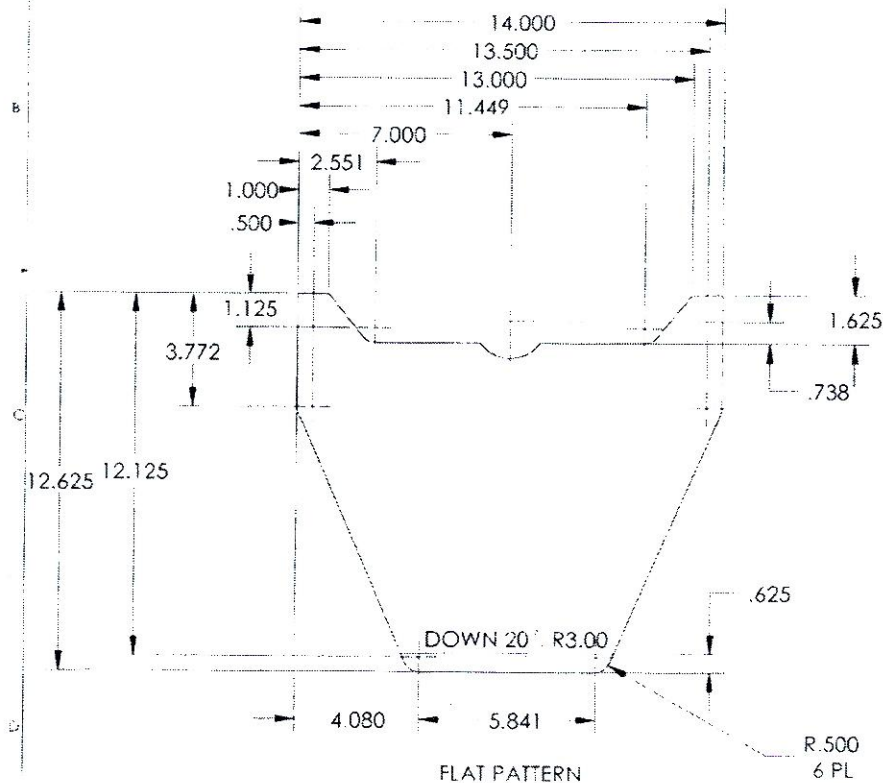
3 DEBUR AND BREAK ALL SHARP EDGES

4 IDENTIFY 1AW MPP-114

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:				☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR	DER REVIEW REQUIRED ☐ YES ☒ NO

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE II, CLASS 2, COLOR BLACK;
CARDINAL 4860-50 PRETREATMENT PRIMER
PRIME IAW MIL-P-23377J TYPE I CLASS N
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120

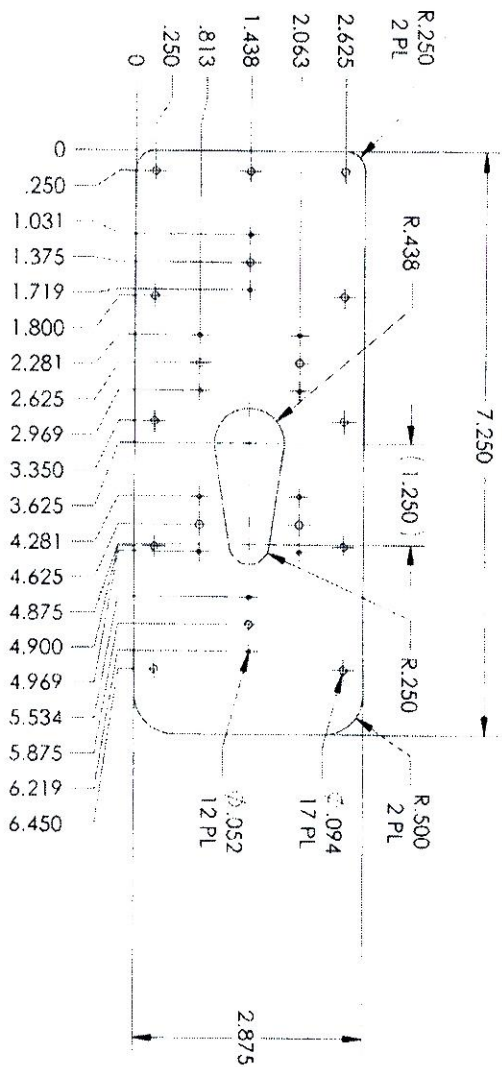


647.4110

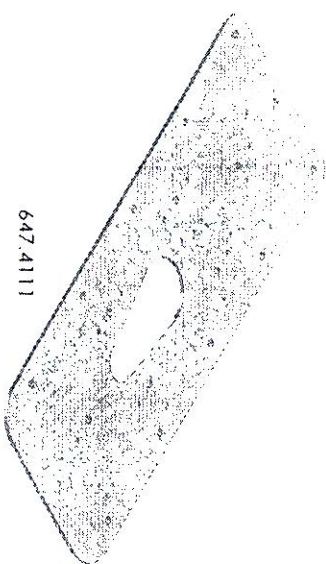
UNINCORPORATED ECN(s)

078606, 04510

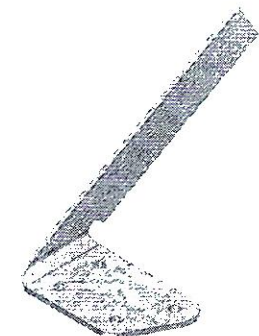
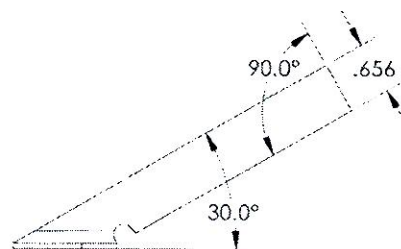
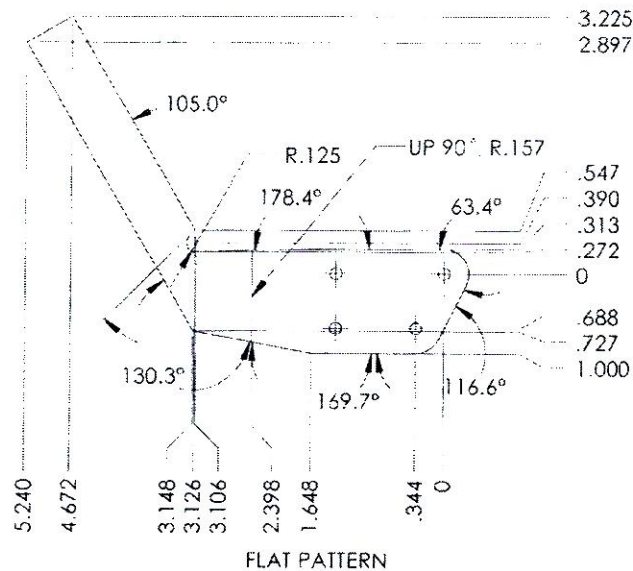
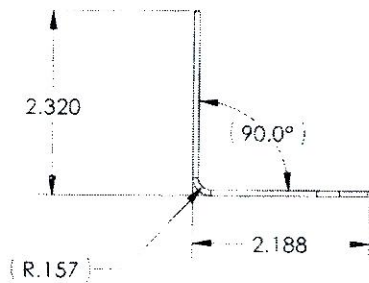
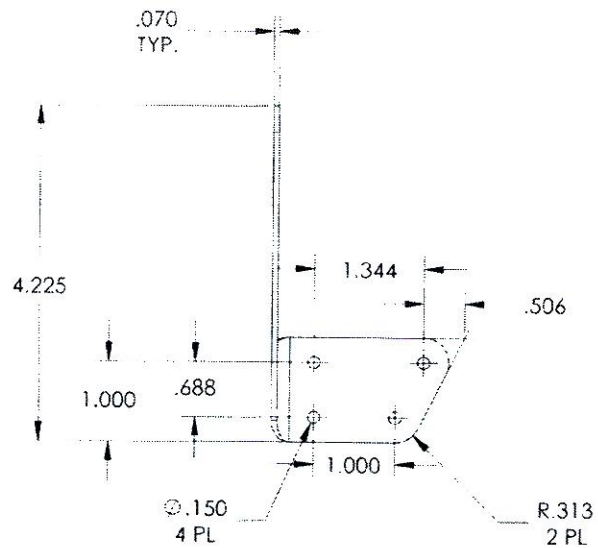
REV	DATE	DESCRIPTION	MATERIAL	SPEC
1	647.4115	DRM		
2	647.4115	SHR		
3	647.4114	DRM		
4	647.4113	CLP		
5	647.4112	CTE		
6	647.4111	DO REP		
7	647.4110	DEBURR		
REV	DATE	DESCRIPTION	MATERIAL	SPEC
1	647.4110	FLAT PATTERN		
APICAL INDUSTRIES				
200 TEMPLE HEIGHTS DR				
OCEANVIEW, CA 92056-3510 (Tel) 714-584-1100				
SHEETMETAL				
647.4100				



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TYP.



APICAL INDUSTRIES	
SHEETMETAL	
647.4100	
SHEETMETAL	



647.4113 SHOWN
647.4112 OPPOSITE

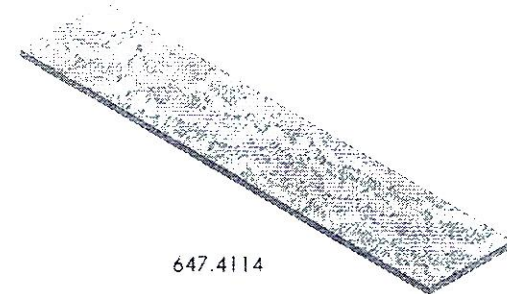
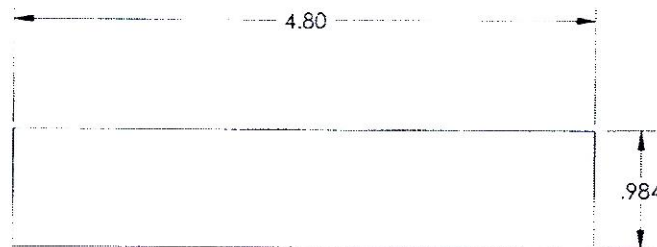
APICAL INDUSTRIES	
1800 TEMPLE HEIGHTS DR.	
OAKLAND, CA 94612-3510 (708) 241-1500	
SHEETMETAL	
647.4100	

.063



4.80

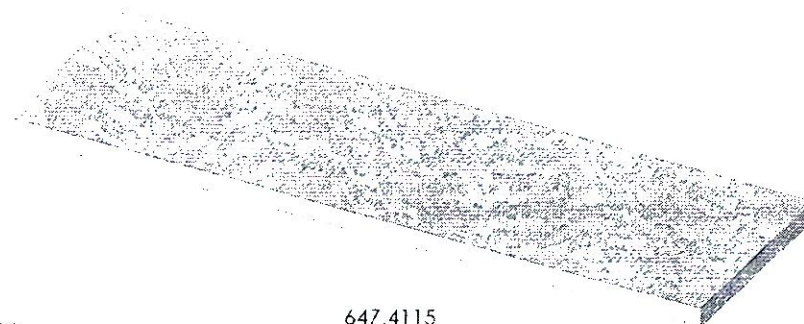
.984



647.4114

APICAL INDUSTRIES	
CORPORATE HEIGHTS OF	
OAKLAND, CALIF. 94612-1224	
SHEETMETAL	
647.4100	647.4114

.090



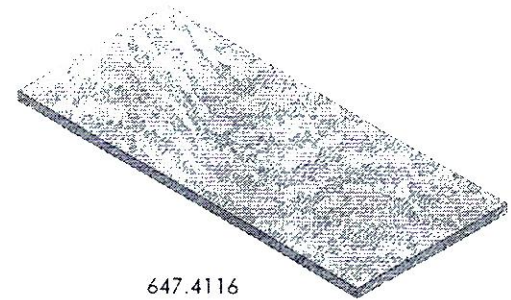
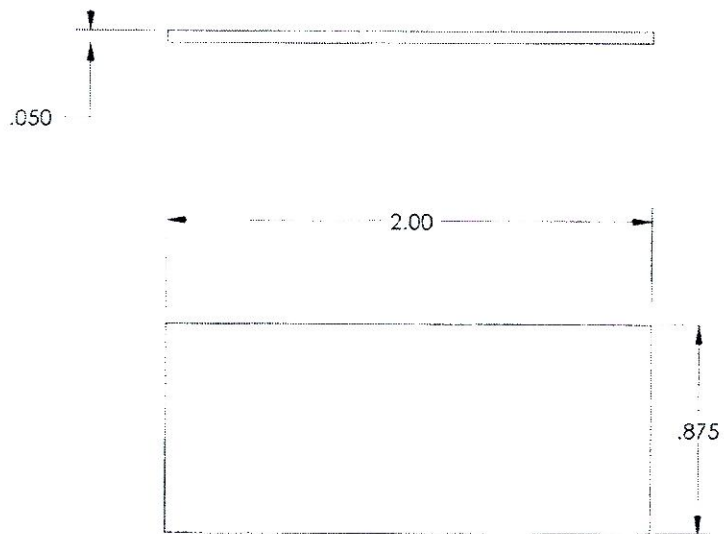
647.4115

3.25



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APICAL INDUSTRIES	
1624 TEMPLE HILL RD.	
CLARK, CA 95026	
SHEETMETAL	
647 4100	



647.4116

APICAL INDUSTRIES	
NASSIMBLE HEIGHTS DR.	
31 EAGLE C.A. 92056-0011 12201754-1503	
SHEETMETAL	
647.4100	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO35239

Purchase Order Date 2/8/2017

PO Print Date 2/8/2017

Page Number 4 of 6

Order From :

VC-ATG001

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Total: \$117.50

10 154910

DAS
38
9-89

647.4110 DOUBLER
REV. N/C

2/24/2017

Yes

2/24/2017

5.00

\$23.25

\$116.25

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377K TYPE I CLASS N

Line Total: \$116.25

11 154921

647.4112 CLIP REV. N/C

2/24/2017

Yes

2/24/2017

8.00

\$7.00

\$56.00

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377K TYPE I CLASS N

Line Total: \$56.00

12 154922

647.4113 CLIP REV. N/C

2/24/2017

Yes

2/24/2017

8.00

\$7.00

\$56.00

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377K TYPE I CLASS N

Line Total: \$56.00

PO Instructions: PRIMER IS SUPPLIED BY DART

Note:

2/8/2017



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912955

Date: 21-Feb-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT. IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.		
8 ea	Part: 646.3310 Upper Cutter Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 19598	Rev: N/C PO: PO35239	Line: 1
5 ea 38 9-89	Part: 647.4110 Doubler Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20238	Rev: N/C PO: PO35239	Line: 10
8 ea	Part: 647.4112 Clip Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20411	Rev: N/C PO: PO35239	Line: 11
8 ea	Part: 647.4113 Clip Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20458	Rev: N/C PO: PO35239	Line: 12
20 ea	Part: 650.9201 Eyelet Bracket Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20470	Rev: A PO: PO35239	Line: 13
20	Part: D2348	Rev: C	



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912955

Date: 21-Feb-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via
Quantity	Description	
	be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.	
	CERTIFICATE OF CONFORMANCE	
	A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO REQUIREMENTS.	
	MADE IN CANADA.	
	Split 02-21	